

The Journal of Parapsychology

A SCIENTIFIC QUARTERLY DEALING WITH TELEPATHY, CLAIRVOYANCE
AND OTHER PARAPSYCHOLOGICAL PROBLEMS

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EDITORIAL COMMENT

THE RESEARCH reported during the *JOURNAL*'s first year has justified, we believe, the measure of confidence needed to go on to wider fields of problems. More collegiate and university studies in experimental parapsychology were reported during 1937 than ever before in a similar period . . . perhaps more than had ever been previously reported altogether.

The explorations in this field have not only multiplied in number but on the whole they have advanced both in experimental precaution and in scientific contribution. The mathematical methods used in evaluations have been carefully examined by highly qualified mathematicians.

Developments of the investigations of ESP have led to a wider knowledge of its nature, of the range of subjects possessing such ability, of the scope of stimuli extra-sensorially perceptible, and of the general physical conditions affecting or not affecting this mode of perception. However it must be recognized that on these topics only a beginning has been made.

But while there will continue to appear reports of similar confirmatory and exploratory studies adding further support to the experimental case for an extra-sensory mode of perception, the time has come to release the first of a series of articles dealing with a more radical outgrowth of the ESP research, namely, with the question whether ESP is limited by time—whether the process of extra-sensory perception can be directed forward into the future (i.e. can precognize events), as apparently it can function outward in space.

Although we regard the report of the preliminary studies on the precognition hypothesis published in this number as a very tentative and far from exciting one, the importance of the question makes the venture of publishing it seem somewhat bold. Possibly it may be regarded as

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rashly inviting incredulity upon a field of research only just emerging from the shadow of the gruelling criticism incident to its first impact on a psychological world unprepared with theory for its explanation and acceptance. The situation therefore warrants a word of clarification on the conditions of this step.

The new line of investigation is reported in a somewhat altered spirit noticeable in those engaged in these researches. It is born perhaps of reaction to the unduly subjective and affective attitudes prevailing among the most outspoken critics. This new spirit is one not so much of impatience as of a desire for less waste of effort in useless argument. It might thus be expressed: "Here is what *we* find. The reader is not asked to *believe* it; but he is earnestly invited to *consider* it. If he cannot himself help to test these hypotheses, or offer constructive suggestions for better test-procedures, he should await the further repetition of those who can. The truth must come ultimately from the laboratories, not from public disputation." In brief, less speculation, more experiment!

This new series is launched, then, with a plea for greater objectivity and for recourse to more actual investigation instead of the dogmatism and ridicule which have been the rule in the history of this subject.

On the whole, psychologists of today have shown a reasonable amount of open-mindedness and a willingness to consider, though in properly guarded fashion, the results of the ESP experiments. The present barrage of hastily composed critiques running through the journals is not, as far as we can judge, representative of the leadership in psychological thought today. This leadership is (happily for all new developments) a more careful and tolerant one.

The position of the ESP research on the issue of sensory cues, which was summarized in the December JOURNAL, is carried further not only by the report on precognition tests but by the Martin and Stribic report which is based entirely upon work with the screened DT test procedure, and that of Clark and Humphrey which is reinforced on this aspect by an excellent final series with the use of the screens.

It is worthwhile to draw attention here to the fact that with but one exception all the research reported in this JOURNAL has been safeguarded on the question of sensory cues by the presence of a substantial series of tests with screened cards, at a distance, or in sealed opaque envelopes. The one exception, like the personal account contained in

the anonymous letter published herewith, consisted of experiments with the experimenter himself as the sole subject tested.

On the question of the adequacy of the research personnel, one which looms in importance by contrast as the other alternatives to ESP fade from the present picture, the addition of another college (Earlham) to the thirteen which had earlier contributed confirmatory evidence in publication to the ESP hypothesis, is a point of some interest. There is, of course, no statistics of personnel sufficiency, but there is—in research as in other fields of action—strength in numbers.

Since scientific eminence in the experimenter weighs heavily—perhaps too heavily—in science, it is a handicap not to be able to add the name of the distinguished author of the anonymous letter published herewith, which reports a substantial series of ESP tests confirmatory of that mode of perception. The intrinsic value of the author's analysis of the results however is in itself worthy of publication.

While it is true that our main statistical procedures have been given the stamp of approval by those most qualified to know, there are still problems of that nature to be solved in adapting the evaluative methods more closely to the research needs, both present and future. The articles by Greville and Greenwood serve this latter end: They determine for the investigators their margins of safety in certain analyses of ESP research data.

The JOURNAL will continue its mathematical section until its needs for original mathematical developments and special applications are satisfied. The unprecedentedly large empirical check under way now at Duke University under Dr. Greenwood's direction, involving a half-million matchings, will furnish material for several studies; and solutions, it is hoped, for several problems.

The case of the Latvian girl of low intelligence rating, Ilga K., has attracted world-wide interest on the strength of F. von Neureiter's interpretation of the phenomenon as one of telepathic perception. Bender's careful and balanced analysis of the studies made of this interesting child adds another variation to the contents of this number. His study is especially timely in view of the recent rise to attention of the case of an American child in many ways like Ilga, according to the first reports of the psychologist studying the child. Similarly limited in mentality and of nearly the same age, the American boy shows a number of simi-

larities to the girl described by Bender. It is hoped that a full report of the boy's means of acquiring knowledge will be forthcoming in the near future.

Critical articles concerning the research in extra-sensory perception have lately appeared with increased frequency in other journals. This was to be expected as widened public interest has literally forced a more serious academic consideration of the experimental results. The main issues raised in these critiques (statistics and sensory cues) have been dealt with already in the articles in previous numbers of this JOURNAL. This fact, along with the further circumstance that we are apparently in the midst of a flurry of such critical papers which will likely continue for some time with much repetition of contents, suggests the advisability of postponing discussion of them here until a fairly complete survey may be made. We list them in the "Notes" (pp. 71-72) by title, however, for the convenience of those interested in the controversial literature.

THE CASE OF ILGA K.: REPORT OF A PHENOMENON OF UNUSUAL PERCEPTION

HANS BENDER

ABSTRACT: In 1935 Prof. v. Neureiter reported his study of a Latvian child, Ilga K., who appeared to have an unusual ability to "read thoughts." The 10-year old girl, although normal physically, was mentally retarded. She had an I.Q. of 48, and learned to read the simplest words only with the greatest difficulty. Her teacher discovered, however, that she could "read" any text, even one in a language foreign to her, if he stood beside her silently reading the text.

Three studies of the child have been made: One by Prof. v. Neureiter, Director of the Institute of Forensic Medicine of the University of Riga, a second by a German commission from the Psychological Institute of Bonn University, and a third by a commission led by Prof. Dahle of the Institute of Psychology of the University of Riga.

Prof. v. Neureiter and his collaborators concluded that the child's performance could not be explained as due to normal sensory stimulation, and that some extra-sensory capacity was at work. The German commission made cinematographic and dictaphone records of their experiments, and concluded that most of the child's responses were explainable in terms of a very acute auditory capacity. They noted, however, a number of observations that were not covered adequately by this explanation. The Latvian commission, using the same general methods more extensively, came to the same conclusion.

Dr. Bender is on the staff of the Psychological Institute at Bonn University and was a member of the German commission.

IN THE AUTUMN of 1935 the Director of the Institute of Forensic Medicine of the University of Riga (Latvia), published a small book called "Wissen um fremdes Wissen, auf unbekanntem Wege erworben"¹ ("Immediate Knowledge of Alien Thought Contents Acquired In An Unknown Manner"). This article caused a considerable sensation and, more rapidly than is suitable for investigations into obscure and questionable forms of mental activity, it reached the public to which it had become known through a number of press reports. In his booklet Prof. v. Neureiter describes experiments which he had made with a ten-year old Latvian peasant girl, Ilga K., who seemed to have the strange ability to "read thoughts." This had been noticed by her teacher

¹ Leopold Klotz Verlag, Gotha 1935.

and by Dr. Kl., a physician who was consulted by the mother because of the child's backwardness.

In his experiments, in which chiefly the child's mother functioned as agent, v. Neureiter and his collaborators came to the conclusion that the transmission of contents of consciousness was not effected through the normal sensory channels and that paranormal* functions were at work. The inquiry was made without any closer contact with parapsychological research. The author even points out that the result of his superficial examination of parapsychological literature was rather unsatisfactory and that this made him doubtful as to the scientific value of his discovery (p. 14). Professor Hans Driesch's personal interest encouraged him to undertake a continuation of the experiments.

Under the auspices of the Latvian Ministry of Education a commission led by Prof. Dahle (Director of the Institute of Psychology of the University of Riga) was formed for the purpose of further investigation of the phenomenon. This commission included a number of scientists—physicists, physicians, phoneticists, psychiatrists and psychologists—who had no close connection with the field of parapsychological research. The Psychological Institute of Bonn University, which had received in detail information on the phenomenon through a collaborator of v. Neureiter's, sought for permission to take part in the further experiments. This was made possible through the intervention and active support of Prof. v. Neureiter and Prof. Dahle.

In the four days in Riga in which the child, who had in the meantime been given a governess, was placed at our disposal we were not able to come to definite conclusions because the phenomenon turned out to be very different from what we had expected and prepared for on the basis of our information and v. Neureiter's article. Further experiments were undertaken by the Latvian commission. In a "Preliminary Report on the Results of the Investigation of the Peculiar Faculty of the Girl Ilga K." in the Riga Rundschau of June 5, 1937, the commission made the following statement: "Ilga's perceptive faculty is based upon an acoustic and possibly an optical capacity of a peculiar structure, also upon a form of contact between agent and percipient, *i.e.*, an active assistance which the mother and also other persons acting as agents give her in the form of an acoustic and optical aid."

This statement seems to express more or less the general consensus of opinion of the different members of the committee without taking account of individual observations. Thus Professor Dahle, always most

* Paranormal as used here means: "Outside the range of the recognized or normal." Ed.

friendly in giving information, wrote me in a letter of October 25, 1937, which I cite here with his kind permission: "There is no doubt that according to the present state of investigation the basic character of the phenomenon is of an acoustic nature . . . I cannot deny that paranormal, *i.e.*, telepathic factors, play a part at least episodically. But that is my personal opinion."

In the spring of this year Prof. Dahle's comprehensive report of the case is to be expected.

In my report I will attempt to sketch the individual phases of the inquiry with as many details as necessary to enable the reader to form his own opinion on this very complex phenomenon. At the same time I shall pay special attention to those observations which seem to escape interpretation by acoustic aid within the threshold of normal hearing.

ILGA'S PERSONALITY AND THE RESULTS OF V. NEUREITER'S INVESTIGATION

Ilga K. grew up as a child of Latvian peasants on a lonely farm near the Estonian and Russian border. Although small of stature the little girl is physically quite well developed but mentally defective. She was eight years old when she learned to speak coherently and she articulates indistinctly even now—a fact which made an investigation especially difficult. Intelligence tests according to the customary methods resulted in an intelligence quotient of 48. Ilga was 9 years old when she entered the primary school where she learned to read the letters but failed almost completely in trying to read syllables and words. To his astonishment the teacher discovered that Ilga could "read" any and every text, even one in a language foreign to her, as soon as he stood beside her with the text before him. She did not need to look into the book. The mother made similar observations. In her presence the child uttered the results of calculations which were far beyond her calculating ability (even to-day she must use pebbles to make the simplest additions and subtractions from 1-10.) This remarkable transmission phenomenon between mother and child was said to be the reason why Ilga often found objects which had been hidden from her. Considering Ilga's "sweet tooth" this phenomenon caused serious difficulties in her bringing up.

In the summer of 1935 Ilga came to Riga where Prof. v. Neureiter made experiments partly in the presence of numerous witnesses. The child actually did repeat, sometimes without any mistakes, texts which were shown to the mother as agent, and this in a peculiar monotonous tone, the word being divided into syllables. Mother and child sat with their backs to one another at a distance of three meters; afterwards the

mother was placed behind a curtain and experiments were made from one room into another. In the latter experiments v. Neureiter unfortunately first handed the text to be transmitted to the agent and then went to the percipient, Ilga. Numbers, words, meaningless syllables, Latvian, German, French, Latin texts were transmitted which the child uttered without comprehending, in a manner corresponding to the mother's purely phonetical way of reading. Thus for example the text "C'est ainsi que dans les 35 cas de mort subite etc." according to v. Neureiter's report was reproduced in the following manner: "C'est ain-si-que-dan-le-trisdesmit-piec-cas de mort-su-bi-te. . ." Exactly following the phonetical understanding of the mother the child uttered the words just as they are written, and consequently spoke the number 35 in Latvian. The mother, who was very temperamental and ambitiously interested in the success of the experiments, did not behave quietly during these transmissions, but stimulated the hesitating child to continue by crying "Go on" or attempted to move her to do her task better through admonishments "Say it right," etc. In his report v. Neureiter indicates these interruptions merely by exclamation marks. Although he maintains that the interruptions were later avoided by the employment of simpler words, they became more and more the center of attention for the later investigators as one of the means of explicating the phenomenon.

The experiments were continued in the dwelling of the family K. in R. Mother and child were in different rooms (we are not told whether the doors were open or closed). When v. Neureiter, before the eyes of the mother, pointed to a picture in a children's book, the child in the next room immediately announced the object represented. There is no mention of encouragements by the mother (p. 47). Pictures out of a children's book were transmitted when they were shown to Ilga's six year old brother. Neureiter emphasizes the fact that the boy had hardly had time even to glance at what was shown him before Ilga spoke out of the next room (p. 50). Finally v. Neureiter was himself successful in some transmissions. At first in spite of his deep concentration the child remained silent. He writes: "While I was about to shut the book and give up the continuation of the experiments, I happened to glance at the word 'Bruhte' with which one of the last lines of the poem filling the page begins. At the same moment the child in the next room cried: 'Bruhte.' The reception had functioned although, or, more correctly, because I was no longer consciously concentrated on transmitting. At the moment of perceiving the word 'Bruhte', I was surprised that in a modern Latvian schoolbook instead of the usual word 'ligava' an antiquated borrowed word had been

adopted." After this experience v. Neureiter tried artificially to "de-concentrate" himself during the transmission, and, according to his report, achieved the correct transmission of six out of nine Latvian words in this way.

Prof. v. Neureiter makes the following summary of the results of his investigations which had to remain fragmentary because of the limits of the time at his disposal.

1. Every possibility of transmission of the conceptual contents of the agent by the way of the normally known sensory channels—whether optic, acoustic or otherwise—has been excluded. We have to deal with a "paranormal" relation of person to person.
2. Actual contents of consciousness were transmitted. The quality of the transmission was the better the more they moved from the center of consciousness to the periphery.
3. The percipient, too, achieves better results in a state of distraction.
4. Words were reproduced by the child at first purely mechanically without comprehension.
5. A special form of rapport of the percipient with a particular agent must be assumed.

EXPERIMENTS OF THE GERMAN COMMISSION

Neureiter's article attracted considerable attention and was widely discussed. In spite of the sensational exaggerations of part of the press which spoke of "A child that knows everything," or of "The peasant girl who speaks all languages," the "wonder-child of Riga" was finally taken note of by the scientific world. From scientists who in general were not particularly friendly to parapsychology I heard the opinion expressed that we seemed finally to have a clear case of what seemed to be telepathy, a case which was free from complicated interpretations of statistical analysis. Even a professional sceptic, a trick expert whose office it is to expose occult phenomena, wrote me: "Here we have proofs as they ought to be given." Whoever has done work himself in the field of parapsychology may well understand how great an interest was taken in the Riga phenomenon after the first reports. If the transmissions had really been effected by an extra-sensory way of perception, the remarkable case seemed to have occurred that volitional telepathy² (the voluntary transmission of actual thought contents from one mind to another without intermediacy of known sensory channels) functioned—in a short distance experiment at least—with almost com-

² I do not discuss the question whether in the Neureiter experiments any pure-telepathy-situation as it is so clearly postulated by J. B. Rhine had been realized.

plete reliability. The source of error lying in acoustic signs, whether in the form of unconscious whispering or in other aids, could be appreciated by no one better than by a parapsychologist. When I was asked to make a report on v. Neureiter's book in the *Zeitschrift für Psychologie*, my first care had to be to make this question clear. After v. Neureiter had told me in a letter that correct transmissions had also been effected from the sound-proof chamber of the Riga broadcasting station, I took up a positive attitude towards a telepathic interpretation of the report, at the same time pointing out the importance of further guarantees and investigations in contact with parapsychological methods of research.

The Bonn Institute of Psychology, which for several years has made parapsychological inquiries part of its research, took part in the further investigation in contact with the Latvian commission.³ Since according to the information we had received we had to assume that transmissions from a sound-proof chamber would succeed as well as within the reach of hearing, we thought a further testing of the telepathic nature of the phenomenon a relatively simple matter. Consequently in making our preparations we concentrated our efforts upon the investigation of specifically parapsychological problems for which the unusually sure and stereotype functioning of the transmission seemed to be a favorable condition, namely: investigation of the problem of rapport between agent and percipient, investigation of the range of individual agents, measurement of the reaction-time etc.

We planned to start by showing to the agent, by means of a specially constructed automatic projector, words, pictures, etc., which had been prepared by persons not involved in the experiments. Simultaneously with the appearance of these words, etc., before the eyes of the agent, a bulb, automatically switched on by the projector, was to be lit. By means of a moving-picture of the child it would have been possible to measure on the length of the film-strip the time elapsing between the lighting of the lamp (exposure of the word before the agent) and the utterance of the word by the child in case of a transmission (first visible movement of the mouth). By gradually increasing the distance the influence of the latter upon the quality of the transmission and upon the

³ Our Institute was supported by the German Board of Education with means for carrying out the investigation, a sign of the increasing interest being officially shown in Germany for scientific inquiries into this problem. Members of the German commission were Prof. Rothacker, Director of the Bonn Institute of Psychology, Prof. Mensching, a former collaborator of Prof. v. Neureiter's and Director of the Department of Comparative Religion in Bonn, Dr. Dubitscher, as representative of the German Board of Health, and myself.

reaction time was to be examined. The question was particularly interesting whether thought contents of the periphery of consciousness would be more easily transmitted than central contents. For this purpose cards with a picture in the middle had been prepared. The picture was to draw the attention forcibly to itself. A word, in small letters, had been placed on the edge of the card.

The experiments were made in July 1936 in a room of the Riga broadcasting station. We constructed a cell out of curtains equipped with windows permitting unnoticed observation. Everything was done to avoid frightening the child with the new apparatus. On a trip to the shore we got to know the child better and Ilga quickly became friendly. The fact that we could not speak Latvian and needed the aid of our amiable Latvian colleagues rendered our experimental work very difficult.

To get a first impression we began with a short-distance experiment (mother and child being separated in the observation-cell by a screen) the conditions and results of which we recorded by moving pictures and dictaphone. The mother had to take cards with Latvian words (prepared by disinterested persons) out of a box, show them in the direction of the camera, and try to transmit them. An assistant watching Ilga took notes on a slate which she in her turn showed to the camera. Most of the transmissions were successful but the mother could not resist encouraging the child with exclamations such as "Ilga, think!", "Say it right!", "Now go on", etc. Ilga uttered the words in syllables in a monotonous tone of voice, often impatiently. The lips of the woman, who was an unusually excitable motor-type and difficult to manage, were often moving simultaneously with the child's utterances. But no sounds could be heard. In one case, the transmission of the word "saulite" (little sun) occurred so quickly that the mother had no chance of interfering. The dictaphone record of this case contains no audible aids.

Ilga was very moody. She tired easily and was accustomed to being immediately rewarded for her performances by many presents. Thus, to get her to take part in further experiments she had to be induced by a trick (introduced by the Latvian commission in earlier experiments but which, unfortunately, became known to us too late). Little boxes with small toys had been prepared, the contents of which the mother was to transmit. The hope of opening the box after the experiment and of keeping the object after the correct utterance stimulated the child. This was of course anything but a pure telepathic situation.

In this way we got a number of correct answers. But the mother's

encouraging remarks continued and she even raised her voice when the distance between her and the child was gradually increased. We finally brought her into the sound-proof chamber (which, by the way, did not completely isolate if one shouted) in order to send from there, at first with the door open. But already in this situation the child no longer reacted, but said several times: "I can't hear anything, how can I say anything when I can't hear anything?" If the mother raised her voice in encouragement the experiments were again successful. But as soon as the door of the chamber was closed, Ilga protested and no transmission took place. With two-way-loud-speaker connection between mother and child correct transmissions were again achieved with the usual aids. When the loud-speaker before Ilga was cut off before the presentation of the word, the child remained silent or maintained her inability to say anything. Now it is possible that the encouragement could possess the function of forming a close psychic rapport between mother and child without acoustically transmitting the word, or *i.e.*, containing phonetical elements of the word which would enable Ilga to guess it. This possibility was even to be considered in face of the fact that the mother occasionally audibly uttered the opening sound of a syllable and called, for example: "Nu saki (now say) nu'k," when the word to be transmitted was "kupite." We tried to make sure of this by means of a trick: encouragements and aids of the mother were recorded with our dictaphone during an actual transmission-situation. We then let the mother talk with the child and "send" from the sound-proof cell by means of the loud speaker and at the moment of the exposure of the word we switched over to the "artificial mother." Ilga was deceived and thought she heard her mother speaking. But no correct transmissions were achieved nor did Ilga reproduce the word to which the dictaphone encouragements referred. An unforeseen complication, namely, the sensitivity of our amplifier to the sudden beginning of broadcasting, allowed us only a few experiments of this kind. As a result we could not come to any conclusions. It seemed to us however, to be the methodologically best way to gratify the desire of the child to hear encouragements and at the same time to exclude acoustic aids for the words actually sent. Of particular interest was the question whether Ilga would possibly discover from the dictaphone-aids the word to which the latter referred. It was one of the most astonishing and illuminating results of the experiments carried on later by the Latvian commission employing this device that Ilga succeeded in finding the word in some cases. More of this later.

The acoustic encouragements, corroborations and corrections which the mother generally gave during the transmission, were subjected to an exact analysis. At the time it could be shown only in a few cases that the mother audibly mingled in with her interjections the opening sound or separate syllables of the word being transmitted. On the other hand it was generally possible to ascertain that the mother moved her lips simultaneously with Ilga's answers, divided as usual into syllables, without real whispering being detected except in one or two cases. This simultaneous movement of the lips occurred especially when the child read from a book together with the mother (ordinarily without even looking at the text and rocking to and fro in the chair, totally uninterested.) Occasionally Ilga spoke quite fluently up to three or four syllables without the mother having by an explosively uttered "ja" to encourage her to continue. The mother showed obvious movements of the lips as she followed the text with her forefinger. When the attempt was made to tie a cloth about her mouth, Ilga protested and sobbed: "Now you look like a monkey." Of particular interest was one experiment in which the word "bumbina zala" (a green marble) was to be transmitted, but the child said "lo-ti-da," the Latvian synonym for marble in slightly distorted form. The mother called out: "Say the same thing in another way." The child's governess called attention at that time to the cases which cannot easily be brought under the heading of an acoustic theory. She noted that Ilga frequently did not receive the word transmitted but a synonym, for example, "spickas" (matches) for "ceručini." Another case is worth mentioning in which a transmission over a distance of 16 meters was effected. This time the attempt was successful in having the encouragements made by the teacher of the child, with the mother evidently trying very hard to remain quiet. As transmission-object I showed the mother a postcard with the number 8 on it, which was to be hidden and the hiding-place to be guessed by Ilga. After the third request of her teacher, Ilga repeated "kar-ti-na." The observer watching the mother believed that he heard the letters k-m. While Ilga's observers were asking where the card was hidden I urged the mother to send the number 8 in addition. Ilga said: "mother does not think that," and no further answer could be elicited.

As a result of these all too brief experiments in Riga our commission, could come only to the conclusion that while the child undoubtedly displayed an unusual perceptive faculty it functioned only when the person transmitting was within the range of Ilga's hearing. The opinions of the numerous observers on the manner of transmission were

very diverse. Since these diverse opinions each represent a different working hypothesis for a further investigation, I will attempt to bring them into a systematic order. But let me first relate some observations and experiments which I was able to make in R., the home of the child, in the presence of the child's governess and occasionally with the physician Dr. Kl. as witness. It was my object to study the question of acoustic aid with a view to discovering the most promising way of carrying on further experiments. Not only the behaviour of the mother but also the general reaction of the child to acoustic aids had to be examined. How would Ilga react to *voluntary* whispering of the words to be transmitted? For this purpose transmission-experiments were made in three stages:

- a) with the mother's lips closed tightly,
- b) with voluntary, just audibly repeated whispering of the word,
- c) with the usual encouragements by the mother (Now say it, think it over etc.)

The mother was sitting with her back to Ilga at a distance of three meters; the movements of her mouth were observed by me personally.

The transmission of the word "Dumi" under these circumstances was effected as follows: In case (a) Ilga said reproachfully: "I can't hear at all what mother's thinking." In case (b) she protested animatedly: "You hoot like an owl" and in reply to the question of the governess whether she now knew the word (for the guessing of which a prize had been promised) Ilga said: "No, I can hear, but I can't understand the word. Mother makes a noise like an owl." In case (c) she uttered in the usual monotonous tone at first "du-bi" then "du-bit," and suddenly, clearly and distinctly, "du-mi." All such experiments took a similar course. In this case the child was not attentive to just-audible whisperings, and even rejected a word-transmission effected in this way, although a much desired reward was to be expected for a quick correct answer. Other occurrences support this observation (which had been already made in Riga but had disappeared in the pro and con of discussion.) In an experiment made from one room into the other the child made such a noise with a pail (which had unfortunately been given her as a reward) that the governess could hardly understand the encouragements of the mother. Nevertheless the number 333, which the child repeated as usual with "tris-tris-tris," was successfully transmitted. Transmission-experiments with the little brother as agent, which, according to v. Neureiter's report, had been surprisingly successful, brought no result—a sign that the phenomena are not constant.

It is evident that, considering the apparently complex structure of the phenomenon, individual observations in which no audible acoustic and optical aids could be ascertained were of particular significance. It is only through exact analysis of such individual cases, which v. Neureiter seems to have been able to observe in a far greater number than was possible for ourselves, that one could avoid prematurely assuming that acoustic aids within the normal threshold of hearing were the exclusive means of transmission. The investigation has shown that the latter played a large and very considerable rôle in the transmission but whether, apart from them, still other kinds of transmission, subliminal or genuinely paranormal also were at work, was still an open question. I was much impressed by the fact that, for example, two of four picture transmissions were successful without the governess or myself hearing any aids and without a possibility of optical signs. One picture showed a dog with puppies and bore the inscription in Latvian: "Our dog Meders with puppies." The mother maintained that she tried to transmit "Suns" (dog) but that the child said "kuçens" (puppy). It was striking that numbers were often transmitted immediately and without any *audible* aid so that one can easily understand that v. Neureiter was so impressed by such results that he underestimated in other cases the rôle played by the encouragements and aids. Among these outstanding cases an observation of an incident of purely spontaneous nature was made. During an experiment Ilga suddenly began to cry and sobbed "I won't say anything. My governess wants to go away, that's why I won't." As a matter of fact the governess did plan to leave for Riga in the evening, a fact which she had kept secret from Ilga in order not to spoil her humour in the interest of the experiments. In another instance a transmission over a distance of 28 meters which, although in rather distorted form, was successful according to the description of the governess then taking notes on the child, was later questioned by the governess herself in regard to its exact course; so that I am forced to leave it out with the regret of not having any objective dictaphone record of it, although this distance would have been of significance for the problem of audible aids. Finally it should be mentioned that a repetition of the reading-experiment with the teacher of the child, who had first discovered her peculiar ability shows that the teacher whispers audibly. Ilga, visibly constrained, failed to react.

REVIEW OF THE WORKING HYPOTHESES

These diverse observations led to the development of diverse working hypotheses. We may now consider methodical possibilities for a

further investigation of the phenomenon such as were proposed by the different members of the commission. It was certain that the transmissions were effected only within the range of hearing. The appreciation of the by no means unusual cases in which transmissions were effected without any audible encouragements and aids, or in which these aids did not sufficiently explain the answers, varied according to the attitude of the individual observer, naturally depending upon his scientific branch and training. One group restricted itself entirely to the distinctly audible aids and declared the phonetical analysis of the encouragements and of the possible whispering as the only method of explanation. Others considered the fundamental acoustic character of the phenomenon as beyond questioning, but held it as chiefly belonging to the realm of subliminal stimuli, or thought of a possibility of a colouring of the encouragement by the word to be transmitted.

A physicist who played a leading part in the experiments of the Latvian commission was of the opinion that the transmission could have been effected perhaps in a form of an ultra- or infra-acoustic wave or that one must assume an astonishingly sensitive close observation of the breathing (of the mother). Some of the transmission might be contained in the utterances of encouragement on the part of the mother. Also different intonation, especially at the end of the interjections, might contain elements which could facilitate guessing by intimately connected persons. This physicist, to whom thanks are due for valuable suggestions, was of the following opinion regarding an hypothesis of a direct mental connection, i.e. regarding an hypothesis of telepathy: Such an hypothesis, he wrote in a report, may only be understood as a manifestation of a fourth dimension of true space; and one need not necessarily be a physicist in order to be sceptical of the calling upon of such possibilities.

The well-known German physiologist Geheimrat Abderhalden, who visited the child in her home, thought the child might react upon extraordinary subtle nuances of her mother's and other peoples' utterances. He is convinced that the mother does not purposely supply aids, and ventures the opinion that Ilga might perhaps concentrate her attention particularly on the sense of hearing for the reason that she is lacking in other capacities of a normal child.⁴

Whilst Prof. Rothacker suggested following the traces of hyperaesthesia, I myself, as a result of my observations at the child's home, considered it advantageous to base some further experiments on the working hypothesis of incidental telepathy as they seemed to me to be more

⁴A clinical examination of Ilga's auditory sense led to normal results.

easily realized. Therefore I proposed a repetition of the experiment with the "artificial mother" at the same time acoustically isolating the sender. In a close contact situation one might have started by filling the mother's mouth with a liquid, by which procedure the slightest opening of the lips could have been immediately detected. If after patient observation telepathy should not have shown itself to be actually a factor of transmission, then the part played by the acoustic helps, of which the occasional rôle was obvious—be they audible or beyond the threshold of normal audition—would have to be the object of further investigation.

EXPERIMENTS OF THE LATVIAN COMMISSION

This line of investigating the audible aids was followed by the Latvian commission in December 1936 and in April 1937. An expert in phonetics and the Director of a Deaf-and-Dumb Institute collaborated in these experiments. I cite an example from the record of an experiment (Dec. 14th 1936) in which a text of some length had been used for the transmission:

Ilgai Rigā iet eabi, vīna vel nebrāns uz māju.
(Ilga is all right in Riga; she will not yet go home)

At a distance of 5 meters the child was sitting with her back to the mother who was controlled by the phoneticist and by the deaf mute expert.

According to the record of the Latvian commission the experiment ran as follows:

- M. Now begin to read
- I. Ielga (laughs) Ilga
- M. And what next?
- I. Riga
- M. That's right.
- I. Ir laba (is well)
- M. Now begin to read from the beginning
- I. Ilga Riga ir laba (Ilga is well in Riga/this she says quite fluently)
- M. encourages to continue speaking
- I. vīna ve-l ne-bus (she won't yet be . . .)
- M. interrupts Ilga and "br" is to be heard in her encouragement.
- Ilga does not notice it.
- M. repeats the whole beginning of the sentence.
- Ilga repeats it in her turn and adds
- I. ma-jas

At the conclusion of this series of experiments from which this example is drawn, the phonetic expert summarizes: "after every word of

encouragement there follows on the part of the mother the opening sound of the next syllable for example t'd, t'm, etc. The fact that the girl repeats not a whole word but separate sounds or syllables of the word proves that the girl listens attentively". This statement seems to be somewhat in conflict with the experimental report which literally states that in the encouragement of the mother "br" was audible (to which Ilga did not react) in which, however, the opening sounds so exactly heard by the phonetic experts are not to be found. In reading a German text during which the child behaved as described above, the mother gave the usual encouragements "go on", "yes", "then right". Whereas the phonetic expert establishes that the mother adds to each following vowel or consonant the first sound, the physicist remarks that he had concentrated his attention upon the encouragements of the mother during her reading and ascertained that the audible aids of the encouragement were much fewer in number than Ilga's replies. At times Ilga utters words which apparently have no accompanying encouragements. It is as if she grasped them immediately.

After the mother had been taken into the sound-proof chamber, the deaf mute expert was able, while looking through a window without hearing the mother, to read from her lips each of the words being transmitted. This shows that the sound complexes in these cases and probably in many others had been exceptionally clearly formed in the motor organs of speech so that it would be unsatisfactory to speak of a "thought-transference." Since an optical contact between mother and child was not essential to the success of the experiment we omit for the sake of simplification the problem of to what degree Ilga could occasionally orient herself by such oral movements in so far as they were visible to her. In a series of experiments over a distance of 10 meters most of them without mother and child being able to see each other (Dec. 1936 and April 1937), the mother gave so many aids that it was not only possible to reconstruct the transmitted words from the individual aids but also for the observers near the mother and even for persons seated further off to hear the correct solution even before Ilga. It is impossible for me to relate here the very impressive experiments as they stand in the report. (One may read them in Prof. Dahle's publication soon to appear.) However, as I announced, my special interest was attached to those cases in which audible acoustic aids did not seem to me to explain the phenomena satisfactorily.

From the concluding remarks of both experts the fact is to be drawn that the mother, during the transmission, made certain movements of sound articulation of which those of the lips and of the lower jaw

were especially observable. Movements of the tongue could not be ascertained because the mouth was generally only partially open but concerning these movements one could judge to some degree according to the state of tension of the facial and cervical muscles and according to the movement of the larynx. If the mother was some distance away the opening sound was more clearly audible. "After each syllable which the child correctly guessed," writes the phoneticist, "the mother said 'yes' or 'now then', immediately adding the consonant of the next syllable. This consonant communicated at the same time some of the vocal quality of the next vowel." On the basis of these observations the phoneticist comes to the conclusion that the child imitates complexes of sounds which she has picked up in some way or other. Several spontaneous remarks of the child corroborated this opinion, i.e. "the beginning and the end, mother has spoken properly; in the middle I could hear nothing."

With the technique of the "artificial mother" a great number of experiments were carried through. The voice issuing from the loudspeaker delighted the child. According to the records of the Latvian commission she almost crept into the loudspeaker and conversed with it as if it were the mother herself, crying out: "Oh, don't you hear what I say" etc. As the record does not mention whether the observers in these experiments knew or did not know the words to which the encouragement referred—so important a fact from a parapsychological point of view—I asked Prof. Dahle about this point. He informed me that none of the recorders knew the sequence of the words. As I always considered this experiment a very illuminating if not decisive one, I want to emphasize the fact that Ilga actually did succeed in uttering the correct word in some cases. Thus she distinctly uttered the word *pātaga* (whip), *vabole* (beetle), *kakitis* (kitten), *cuka* (pig) and some others. Now Professor Dahle wrote me that the mother's phonetical aid could usually be sufficiently heard by the three chief recorders, *but that in some cases they did not succeed in hearing them*. This latter circumstance seems to have struck another observer as being an outstanding feature of the experiments with the "artificial mother." The physician who drew Prof. Neureiter's attention to the child gave the following account, under the fresh impression of the experiments which convinced him of the acoustic nature of the phenomenon: In a letter which, of course, is not meant as scientific record, he writes that after a long series of words had been sent by the mother and recorded on disks, "when these were played it became positively evident that the opening sound expected by all of us could *not* be heard. And now Ilga was placed in front of these records

and told that she would now hear her mother from a loudspeaker. It was then that the most amazing thing happened. Ilga now, actually reproduced quite a number of words or only syllables in a striking way and did this in places on the record at which *absolutely* nothing could be heard beside the encouragements of the mother; so there was no opening sound . . ." After these experiments the physician had several of the records to which Ilga had reacted with the correct word played to him with an amplifier. The amplifier encouragements of the mother were reproduced in so loud a manner as to be almost distorted and yet an aid which might have contained the opening sound of the word transmitted could not be heard in the least. Dr. Kl. then goes on: "Now *this* was actually the situation which impressed me most of all, namely that Ilga—if all this is correct—is capable of 'hearing' something which I with my normal sound auditory sense could *not* hear even with the highest degree of amplification."

Furthermore Dr. Kl. mentions the strong impression made on him by experiments in which the child's governess sent according to a system of aids (recorded by the Latvian commission on May 1st 1937). Based on the theory of the whispered opening sound as help she had trained herself to such an extent "that with her the sending works at least just as well if not even more smoothly than with the mother. She does it with such skill that it is often only with difficulty—especially at some distance—to notice at all that the next opening sound is being breathed softly."

Experiments which the Latvian commission finally made with the child's schoolmaster (who had first noticed the phenomenon) clearly showed that Ilga also reacted to his audible whispering.

In view of these results the Latvian commission had good reasons for stating in their "Preliminary Report" that "Ilga's abilities are founded upon a specially oriented auditory and possibly also an optical function,⁵ and upon the proved aid of the sender. The contact between Ilga and the sender also plays a certain part which with the mother as sender has been shown to be of the closest nature". Ilga, we may emphasize again, certainly does not "read thoughts", but reproduces without generally comprehending their significance, sound groups which at least when the mother is sending, are formed in the motor organs of speech. So the phenomenon seems to be a kind of mechanical imitation. (That this is not always the case appears for example in an experiment of the Latvian commission of April 1936 in which from one room into the other the mood of the mother, being in good humour, was to be

⁵ I neglect this latter possibility as not being essential to a transmission.

transferred to Ilga. The mother is laughing and begins to manipulate an apparatus which is similar to a pump and asks: "Ilga, tell me what I am doing?" The latter finally calls out, amused: "Pump. You are pumping." She accompanied this statement with a loud laughter unusual with her.)

In the "Preliminary Report", following the statement of the phoneticist and the deaf mute expert, audible whispering and audible furnishing of the syllables by means of the encouragements (opening sound, etc.) are set forth as the mode of transmission. The cases in which such aids were not audible, or only insufficiently so, are alluded to in the Latvian report in the one sentence: "The contact between mother and child is occasionally so close that it is rather difficult to ascertain the peculiar nature of the aids." This underestimation of these important cases seems to me to be the result of a tendency towards a rationalization and generalization, which, seeking to satisfy the requirements of a full explanation *according to one principle*, naturally sees only one side of a complex phenomenon.

Professor v. Neureiter's conclusions seem to reflect the same tendency in the paranormal direction. In the case of Ilga K. we have to deal with a complex phenomenon of close contactual understanding of which the particular theoretical interest for parapsychological investigation appears precisely in those cases which apparently cannot be explained by normally audible aids. Whether the latter case is based on an acoustic hyper-aesthesia and may then conform to the chief feature of the phenomenon, viz. the acoustic one (of which I am now personally convinced) or whether perhaps gradual transitions to paranormal, *i.e.* telepathic modes of transmission, exist (or a kind of simultaneous collaboration) is still an open question worth further investigation. Perhaps Professor Dahle, who in his personal opinion of the case also considers this possibility among others, will speak of it in his comprehensive report. He will probably outline in detail the more psychological side of this case, the discussion of which, in my function as historiographer of the experimental methods and results, I could not enter upon here. For a number of interesting questions arise, the consideration of which is the real reward for the arduous, and at times trying, experimental work. What part, if any, does the feeble-mindedness of the girl play in the development of her capacity? Are there accounts of similar although perhaps less striking cases in psychiatric literature? Is the child's strange gift a substitute for deficient mental abilities, a sort of "short circuit" of rudimentary intellectual functions which simulate results of thought? Has practice any part in the phenomenon and can

it have influenced its character in the course of time? How can it be explained that the ability functioned spontaneously during the first reading with the teacher? In how far is Ilga conscious of the mode of transmission? Finally, regarding the psychology of the mother, how does she (who certainly does not intentionally practice deception) explain her contact with the child? How do other senders occasionally succeed in gaining contact with Ilga without previous knowledge of a system of audible aids, as for example v. Neureiter's "Bruhte" case, also Ilga's little brother as sender and others? Have we to deal here with involuntary whispering which although often greatly exaggerated in its significance may perhaps indeed play for once a decisive rôle? Thus we come again to the heart of the whole matter: "How had the transmission been effected in the instances less obviously acoustically explainable?"

Many as the unsolved problems of this case may be, it must no longer be cited as an example of genuine thought-transference, which has unavoidably occurred in consequence of v. Neureiter's report.⁶

The controversy over the existence of telepathy is not entailed in the discussion whether the Ilga case is normal or paranormal. For one having an intimate knowledge of the field of parapsychology, the existence of telepathy can no longer be doubtful.

The case in hand shows once again the need for extreme cautiousness in judging facts gained by those observations made under the circumstances of a first meeting with obscure and questionable forms of mental activity. Such observations are more or less dependent upon the individual working hypothesis which in its turn is likely to reflect the position taken up consciously or unconsciously by the individual investigator, according to his scientific viewpoint. I risk this truism only to emphasize the more forcefully the necessity and value of objective records—cinematographic and acoustic—the aid of which in the investigation of such complex phenomena must be considered methodically indispensable.

⁶It must be said that our phenomenon has but little similarity with almost all known cases of spontaneous telepathy. A certain analogy exists in the case reported by the French physician Dr. Quintard of a seven year old boy who solved the most difficult arithmetic problems by "guessing" the solution calculated by his mother. This phenomenon was regarded by several French physicians as of a genuine telepathic nature. Cf. Moser: *Der Okkultismus*, Vol. I, p. 362. *Annales des Sciences Psychiques*, 1894, 221-228.

STUDIES IN EXTRA-SENSORY PERCEPTION: I. AN ANALYSIS OF 25,000 TRIALS

DOROTHY R. MARTIN and FRANCES P. STRIBIC

ABSTRACT: A long series of trials (25,000 in number) were performed under uniform conditions, by a single subject. The DT or "down through" technique was used throughout. All tests were screened. An average of 6.89 with a critical ratio of 29.35 was obtained.

Two control series were employed: The first consisted of a "reverse check," in which the guesses of the subject were checked against the reverse order of the pack. The second involved 25,000 trials of the chance matching of two packs of ESP cards. These series yielded averages of 5.03 and 4.98 respectively, with critical ratios of .51 and —.28.

Detailed analysis of the data revealed: 1. marked—but never below chance—daily fluctuations in scoring, with suggested correlation with physical fitness; 2. greater frequency for consecutive hits in Direct than in control series; 3. suggested correlation between scoring success and card position; 4. marked symbol preferences without significant effect on scoring.

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INTRODUCTION

THIS is the first of a series of articles to be presented in consequence of studies made at the University of Colorado concerning problems in the field of perception without known sensory means. In this article will be presented the data obtained in a long series of trials (25,000 in number), performed under uniform conditions, with a subject who has previously demonstrated high scoring ability in card matching tests.¹ These data, together with two control series of equal length, will be subjected to rather complete analysis. In future reports, it is hoped that attention may be directed to experimental findings bearing upon such problems as adequacy of shuffling, the effect on scoring of the subject's knowledge of his score, and the role of will in scoring. These, together with other problems, are now under experimental consideration in our laboratory.

¹D. R. Martin, "Chance and Extra-Chance Results in Card Matching," *J. PARAPSYCHOL.* I, 1937, 185-190.